

# Science Achievement Rubric for 6<sup>th</sup> Grade Knollwood Report Card

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Performance Indicators	Rubric
Understands ideas and concepts presented	<p>3</p> <ul style="list-style-type: none"> <li>Assessments show clear evidence of understanding of concepts in science</li> <li>Analyzes information to clearly explain issues, concepts, and/or draw conclusions</li> <li>Prior misconceptions are revised when new evidence is discovered or new material learned</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>Assessments show a literal interpretation of given information</li> <li>Analyzes information to explain at least one issue or concept with extra support (teacher, materials provided, notes, etc.)</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>Assessments represent recall of some information given</li> <li>Analyzes information with extra support</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>Assessments show evidence of understanding of concepts and ideas that reaches beyond the assignment to make other connections and extend thinking.</li> <li>Responses demonstrate use of methods, concepts, theories in new situations and the ability to compare and discriminate between ideas</li> </ul>
Supports ideas with reliable evidence	<p>3</p> <ul style="list-style-type: none"> <li>Filters and evaluates information to determine what is needed to support ideas and theories</li> <li>Appropriately uses data (labs, experiments, textual evidence) to support conclusions</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>Data is gathered but may not lead to a conclusion</li> <li>Prior knowledge and connections are used in a limited manner to examine issues and support</li> </ul>

	<p>ideas and explore theories</p> <ul style="list-style-type: none"> <li>• Ideas may be supported by basic scientific information</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>• Data is gathered but rarely leads to a conclusion</li> <li>• Information on a literal level may be used to support ideas, issues and theories</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>• Logically and extensively uses prior scientific knowledge to provide evidence and support conclusions</li> </ul>
Recalls pertinent information	<p>3</p> <ul style="list-style-type: none"> <li>▪ Identifies (as appropriate for unit of study) organisms and their parts, rocks, minerals, chemicals and their properties, and other significant scientific information</li> <li>▪ Lists characteristics of concepts in the natural world</li> <li>▪ Lists characteristics of the scientific method and scientific theorems and postulates</li> <li>▪ Labels diagrams, charts, and other graphical displays accurately</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>▪ With some prompting or other scaffolds (such as a word bank or color coding), identifies significant scientific information related to a unit of study</li> <li>▪ Lists the essential characteristics of concepts in the natural world</li> <li>▪ Lists some of the characteristics of given scientific theorems</li> <li>▪ Labels salient features of diagrams, charts and other graphical displays with some accuracy.</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>▪ With the aid of mnemonic devices, visual clues, word banks, and other scaffolds along with an increased contextual exposure, identifies a limited selection of scientific information related to a unit of study</li> <li>▪ Matches some concepts in the natural world with some of their essential characteristics when given both</li> <li>▪ Matches some characteristics of given scientific theorems when given both</li> </ul>

	<ul style="list-style-type: none"> <li>Labels some (though not necessarily the most important) features of diagrams, charts, and other graphical displays when given a word bank and/or other reference materials</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>Readily identifies significant as well as obscure features of scientific information and seeks to find out more</li> <li>Lists detailed characteristics of concepts in the natural world and shows ways in which they are interconnected</li> <li>Lists, with great depth and detail, the characteristics and understandings of different scientific theorems, postulates, and theories presented <ul style="list-style-type: none"> <li>Labels diagrams, charts, and other graphical displays with precision and detail beyond models given</li> </ul> </li> </ul>
Designs and/or conducts a scientific investigation	<p>3</p> <ul style="list-style-type: none"> <li>Reliable evidence that logically supports conclusions</li> <li>Procedures are complete and able to be followed</li> <li>Able to form testable questions and hypothesis</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>Some evidence provided to support conclusions</li> <li>Procedures difficult to execute</li> <li>Needs assistance to formulate testable questions and hypothesis</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>Incapable of forming testable questions and hypothesis</li> <li>Procedures are incomplete and difficult to execute</li> <li>Conclusions not connected to data</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>Able to identify and control variables</li> <li>Able to make connections from their research and apply to other areas of science</li> </ul>
Collects, organizes and interprets the data that	<p>3</p> <ul style="list-style-type: none"> <li>Uses appropriate tools and technologies (rulers, pH paper, hand lens, computer, reference</li> </ul>

result from investigation	<p>materials, etc.) to gather and analyze data and draw conclusions</p> <ul style="list-style-type: none"> <li>• Use and understanding of scientific method or process is evident</li> <li>• Records sufficient amounts of data</li> </ul>
	<p>2</p> <ul style="list-style-type: none"> <li>• Uses tools and technologies (rulers, pH paper, hand lens, computer, reference materials, etc.) as directed to gather data and draw conclusions</li> <li>• Records an insufficient amount of data</li> <li>• Use of scientific method is limited</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>• Uses tools and technologies (rules, pH paper, hand lens, computer, reference materials, etc.) as directed to gather some of the necessary data</li> <li>• Records no data</li> <li>• Use of scientific method is not evident and there is no supporting data</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>• Accurately, consistently, and proficiently uses all appropriate tools and technologies (rulers, pH paper, hand lens, computer, reference materials, etc. ) to gather, analyze data, and draw conclusions</li> <li>• Applies scientific method accurately (frames testable questions, designs experiments, gathers and records data, analyzes data, and verifies results)</li> </ul>
Produces information in written, graphic, and/or oral formats	<p>3</p> <ul style="list-style-type: none"> <li>• Uses scientific terminology appropriate to the situation when presenting information in a logical sequence</li> <li>• Presents information in a clear, focused, detailed, and easily communicated manner</li> </ul> <p>Which will include sketches, maps and or graphic organizers</p>
	<p>2</p> <ul style="list-style-type: none"> <li>• Uses some scientific terminology appropriate to the situation when presenting information sometimes including sketches, maps and or graphic organizers</li> </ul>

	<ul style="list-style-type: none"> <li>• Presents general information on a broader than expected topic with key elements omitted</li> </ul>
	<p>1</p> <ul style="list-style-type: none"> <li>• Uses some scientific terminology that has been previously provided by the teacher when presenting information</li> <li>• Simple sketches, maps, or graphic organizers are rarely produced or accurate</li> </ul>
	<p>E</p> <ul style="list-style-type: none"> <li>• Interpretation of scientific information supports conclusions and raises new questions or is applied to new contexts</li> <li>• Presents a well-organized persuasive argument using sketches, maps or graphic organizers which demonstrate a depth of understanding of important relationships</li> </ul>